

IN THE ABSTRACT:

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Substitute Abstract

An intake air amount control system for an internal combustion engine, which is capable of ensuring high robustness and improving controllability in intake air amount control, to thereby improve drivability and reduce exhaust emissions. A control system of an internal combustion engine, which variably controls the amount of intake air drawn into cylinders as desired via a variable intake valve actuation assembly includes an ECU 2. The ECU 2 calculates a cylinder intake air amount G_{cyl} and a target intake air amount G_{cyl_cmd} based on a controlled object model, a vector θ s of all model parameters of the controlled object model with an identification algorithm, calculates a target auxiliary intake cam phase θ_{msi_cmd} based on the vector θ s with a sliding mode control algorithm, and controls the variable intake valve actuation assembly according to the target auxiliary intake cam phase θ_{msi_cmd} .